Bay Area Air Quality Management District

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STATEMENT OF BASIS
and
PERMIT EVALUATION

for

MAJOR FACILITY REVIEW PERMIT

for

Acme Fill Corporation
Facility #A1464

Facility Address:
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Martinez, CA 94553

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review, because it is a designated facility as defined by BAAQMD Regulation 2-6-204. The Emission Guidelines for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart Cc) require the owner or operator of a landfill that is subject to this part and that has a design capacity of greater than or equal to 2.5 million mega grams and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70. As discussed in more detail below in Section C.IV of this report, this facility is subject to these emission guidelines because it meets the designated facility criteria listed in 40 CFR § 60.32c(c).

Major Facility Operating permits (Title V permits) must meet specifications contained in Regulation 2, Rule 6, Major Facility Review (MFR). The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. Permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A1464.

B. Facility Description

The Acme Fill Corporation (AFC) site is a municipal solid waste disposal facility that has been in operation since 1949. The site is comprised of the following parcels: a 135-acre north parcel, and 87-acre east parcel, a 22-acre south parcel, and a 269-acre buffer zone/borrow area. A borrow area or borrow pit is an area of land where the overburden, consisting of unconsolidated rock, glacial debris, or other earth material overlying bedrock is extracted from the surface. Extraction occurs on a one-time basis or intermittently as need occurs, for use as fill materials by the extracting party in the form in which it is extracted. No milling is involved, except for the use of a scalping screen to remove large rocks, wood and trash. The material is used by the extracting party more for its bulk than its intrinsic qualities on land which is relatively near the pit or borrow area.

Of the 513 total acres of area, only the acreage from the north, east, and south parcels (244 acres) are permitted to accept waste. The south parcel is not addressed in this Title V permit since it is

a discreet landfill located more than 1 mile from the north and east parcels and with less than 1,000,000 tons in place. Since the south parcel is also closed it is not a NSPS or EG site or subject to Title V status as a major source.

Presently the AFC site accepts only wood and green wastes, construction and demolition wastes and other inert waste material. AFC does not accept any VOC-laden soils or other similarly contaminated material. AFC no longer accepts household waste materials.

Permitted sources include the landfill with a landfill gas collection system, a diesel engine powered green waste grinding operation, landfill leachate treatment equipment, and an enclosed ground flare. The bulk of the landfill gas from the AFC site is compressed, and sent over to the nearby Central Contra Costa Sanitary District sewage treatment plant to be combusted in the boilers and/or incinerators.

Currently the waste in place capacity of AFC is approximately 11,000,000 tons. According to permit application 5630, AFC has been granted an increase in the total tons in place by an incremental 200,000 tons to a final 11,200,000 tons in place. The AFC was originally scheduled for closure in the year 2002. Due to Regional Water Quality Control Board directives, AFC is required to remain open to receive Class 3 wastes (non-hazardous, construction and wood waste) until 2010. This will bring the final fill height to 75 feet, providing appropriate slope to minimize surface water infiltration and subsequent contamination. The maximum daily waste acceptance rate remains 1500 tons per day.

AFC plans to continue accepting waste at this landfill until it is filled to the capacity of 11,200,000 tons in place as permitted by the Regional Water Quality Control Board. AFC expects to reach this level in 2010. When the capacity is reached, the landfill will no longer accept waste materials of any kind, and will be closed.

As required by various local, state, and federal regulations, the landfill at this site is equipped with an active landfill gas collection system. Landfill gas collection systems are perforated pipes that are buried in the refuse at numerous locations. For active collection systems, the perforated pipes are connected to blowers by solid pipes (referred to as laterals and headers). The blowers maintain a vacuum in the buried refuse and draw landfill gas into the perforated pipes. The blowers then vent this collected landfill gas to control equipment. For active landfills, the perforated pipes are often placed horizontally in the refuse as filling progresses. Perforated pipes can also be installed vertically by drilling holes into refuse areas and placing the perforated pipes within these wells. AFC's gas collection system currently includes 60 vertical gas collection wells.

Normally the collected landfill gas is compressed and sent to the Central Contra Costa Sanitary District (CCCSD) sewage treatment plant (Site # A0907) for use as a fuel for two boilers and/or two sewage sludge incinerators. The boilers and sludge incinerators will produce secondary emissions comprised of nitrogen oxides, carbon monoxide, sulfur dioxide, particulate matter, formaldehyde, and polycyclic aromatic hydrocarbons. The landfill gas fired boilers and sludge incinerators are subject to Regulation 8, Rule 34. The applicable requirements for this equipment is discussed in detail in the MFR Permit for Site #A0907.

Any collected landfill gas that is not sent to CCCSD is burned in AFC's enclosed ground flare. This flare will produce secondary emissions including nitrogen oxides, carbon monoxide, sulfur dioxide, particulate matter, and formaldehyde.

The AFC site also includes a process for treating leachate, or runoff, from the landfill. This leachate contains small amounts of precursor organic compounds and toxic compounds and as must be treated before it can be disposed of or discharged. The leachate process is identified at S-200, and consists of the following components: a 13,000 gal flow equalization tank, a 3,000 gallon contact tank, 2 aeration tanks at 13,000 gallon each, one secondary clarifier, a 700 gallon sludge thickening tank, one slurry tank with mixer, a mechanical filter press for sludge dewatering, and one 6,000 gallon caustic storage tank. Although the leachate treatment process is a permitted source, emissions are not significant, estimated at less than 1 pound/day of VOC. Potential emissions are reduced through the biological processes that occur in the leachate treatment plant. Some VOC emissions occur through normal weathering of the liquid streams and also through the air contacting process, the purpose of which is to provide oxygen for the biological reactions to occur.

The sources at the AFC site, which are addressed in this permit are as follows (identified by an S number):

S-1 Acme Landfill with Gas Collection System
S-4 Diesel IC Engine for S-5 Tub Grinder
S-5 Green Waste Tub Grinder
S-200 Landfill Leachate Treatment Facility

The abatement devices are as follows (identified by an A number):

A-1 Water Truck
A-2 Landfill Gas Enclosed Flare

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, and BAAQMD Regulation 2-6-409, Permit Content, which dictate certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in this table but will have an "S" number. An abatement device that is also a source (such as a thermal oxidizer that burns fuel) will have an "A" number.

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Differences between the Title V Application and the Current Sources: The original Title V application includes a source which was previously shutdown, S-2 Leachate Treatment Facility. This source was closed and archived when the new leachate treatment system was permitted in 1992. There are no emissions from this out of service source, hence it is not included in the Title V Permit.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound), are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered a significant source pursuant to the definition in BAAQMD Rule 2-6-239. This facility does not have any significant sources that do not have District permits.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District Rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program. [NOTE: for landfills, BAAQMD Regulation 8, Rule 34 is federally enforceable because it was approved into the state plan for landfills pursuant to 40 CFR § 60, Subpart Cc.]
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit.

<u>Complex Applicability Determinations</u>

Landfills and landfill gas combustion equipment are subject to BAAQMD Regulation 8, Rule 34. This regulation requires landfills that have more than 1 million tons of refuse in place to collect and control the landfill gas that is generated by waste decomposition and specifies numerous operating, monitoring, and reporting requirements for subject operations. Regulation 8, Rule 34 has required that the landfill at this site be controlled by an active landfill gas collection system and a landfill gas control system since 1987.

Landfills and landfill gas combustion equipment are also potentially subject to either the federal New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills or the Emission Guidelines (EG) for MSW Landfills. The federal NSPS for MSW Landfills (40 CFR Part 60, Subpart WWW) applies to landfills that have had a design capacity modification after May 30, 1991. The EG for MSW Landfills (40 CFR Part 60, Subpart CC) applies to landfills that have had no design capacity modification since May 30, 1991 but that have accepted waste since November 8, 1987. Until the District issued Acme Fill Corporation an Authority to Construct for a small landfill design capacity expansion pursuant to Application # 5630 (submitted in June 2002 and approved September 11, 2002), AFC had not had a design modification since 1991, but had accepted waste after November 8, 1987. Therefore the EG regulations were applicable to this landfill.

The California State Plan (40 CFR Part 62.1115) implements the federal EG regulations for existing landfills in California. The BAAQMD implemented these requirements by amending the existing Regulation 8, Rule 34 on October 6, 1999. On September 20, 2001, EPA published a notice in the Federal Register of its intent to adopt revisions to the California State Plan for MSW Landfills by direct final rule. The revisions listed in the 9/20/01 Federal Register notice include the addition of the October 1999 version of BAAQMD Regulation 8, Rule 34 into the California State Plan with an effective date of November 19, 2001.

In accordance with the federal emission guidelines, BAAQMD Regulation 8, Rule 34 requires landfills with a design capacity of more than 2.5 million Mg (approx 2.7533E6 ton) and more than 2.5 million m^3 to be equipped with a landfill gas collection system and control system. The prior design capacity of the AFC landfill exceeded these applicability criteria. On July 1, 2002, subject landfills and the associated collection and control systems were required to meet numerous new operating, monitoring, and reporting requirements. These requirements are specified in detail in Section IV of the permit.

On September 17, 2002, the District issued Acme Fill Corporation an Authority to Construct for a small landfill design capacity expansion (pursuant to Application # 5630). The use of this Authority to Construct will trigger the applicability criteria for the NSPS for MSW Landfills. Initially these requirements include only reporting requirements. The conclusions of the reports will determine if any of the NSPS control requirements are applicable to this facility. The EG control requirements will remain in effect unless they are replaced by NSPS control requirements at a later date. The future requirements of the NSPS are listed in Section IV, with the future effective dates noted.

Although EPA has proposed a NESHAP for Municipal Solid Waste (MSW) facilities, this NESHAP was never approved and is not applicable, because the HAP emissions from this facility do not exceed the major facility thresholds.

In addition to Regulation 8, Rule 34, landfill operations and landfill gas combustion devices are also subject to numerous other BAAQMD regulations and permit conditions. All applicable requirements are described in Section IV of the permit.

There are no federal air regulations that apply to the diesel engine, tub grinder, or the leachate treatment equipment. This equipment is subject to several District Regulations and permit conditions as described in Section IV of the permit.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

"409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

> 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance for the period from June 1, 2001 to June 30, 2002 and notes that there have been no citizen complaints. There was, however one (1) Notice of Violation issued during the period for a 1-day excess of the landfill surface requirements noted in Regulation 8 Rule 34, Section 303. This leak was repaired during the inspection. The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

VI. Permit Conditions

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and enforceability. Each permit condition is identified with a unique numerical identifier, up to five digits.

While the District has authority to revise the existing permits, and is doing so here concomitantly with the Title V process, it also has authority to supplement the terms of existing permits through the Title V process itself. When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

All changes to existing permit conditions are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all 'strike-out" language will be deleted; all "underline" language will be retained.

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The District has reviewed and, where appropriate, revised or added new annual and daily throughput limits on sources so as to help ensure compliance with District rules addressing preconstruction review, Regulation 2-1-301. For grandfathered sources, these limits are being added to the existing permits pursuant to the authority in 2-1-403, which provides the District with authority to "impose any permit condition [it] deems reasonably necessary to insure compliance with federal or California law or District regulations." Creating throughput limits

for grandfathered sources is not required by either Part 70 or the District's MFR rules. However, issuance of the Title V permit is an opportunity for the District to exercise authority under 2-1-403 by adding conditions to the District operating permit through a parallel process, that is, by revising the P/O concurrently with the Title V permit issuance. The District believes the addition of these throughput limits is authorized under Regulation 2-6-409.2.2, as these limits will help "assure compliance" with the District preconstruction review program.

The applicability of preconstruction review (2-1-301) depends on whether there is a "modified source" as defined in District Rule 2-1-234. Whether there is a modified source depends in part on whether there has been an "increase" in "emission level." Regulation 2-1-234 defines what will be considered an emissions level increase, and takes a somewhat different approach depending on whether a source has previously permitted by the District. Sources that were modified or constructed since the District began issuing new source review permits generally will have permits that contain throughput limits, and these limits are reflected in the Title V permit. These limits have previously undergone District review, and are considered to be the legally binding "emission level" for purposes of 2-234.1 and 2-1-234.2. By contrast, for "grandfathered" sources that have never been through preconstruction review, an "increase" in "emission level" is addressed in Regulation 2-1-234.3. A grandfathered source is not subject to preconstruction review unless its emission level increases above the highest of either: 1) the design capacity of the source, 3) the capacity listed in a permit to operate, or 3) highest capacity demonstrated prior to March 2000. However, if the throughput capacity of a grandfathered source is limited by upstream or downstream equipment (i.e., is "bottlenecked"), then the relaxing of that limitation ("debottlenecking") is considered a modification. In the case of the design capacity modification at AFC's landfill (Application # 5630), the landfill was previously a grandfathered source. The highest emission rate at the previous design capacity was used to determine baseline emissions for the purposes of Regulation 2-1-234.3. However, the maximum emissions expected after the design capacity modification will not exceed the baseline emissions. Therefore, the landfill was determined to be an altered source pursuant to Regulation 2-1-233 but not a modified source pursuant to 2-1-234.3.

In proposing throughput limits for grandfathered sources, the District has described the limits differently based on the factual support in the record. The limit may be a reporting threshold, in which case if the limit is exceeded and not reported, a permit violation has occurred. Secondly, it may be a firm throughput limit, in which case a permit violation occurs whenever the limit is exceeded. Thirdly, it may be a Regulation 2-1-234.3 modification threshold, in which case exceedence of the limit triggers a requirement to obtain an ATC. Where the information in the record is indicative of a 2-1-234.3 threshold, but not definitive in that regard, the limit is structured as a reporting threshold, and as presumptively an emissions limit and a modification threshold. Where, on the other hand, the District believes the information in the record is definitive, the limit is structured as an firm throughput limit and a modification threshold. It would be redundant for a limit to function as both a reporting threshold and a throughput limit, and so the latter will normally preclude the former.

As noted, for presumptive limits, exceedence of the limit is not per se a violation of the permit. *Failure to report an exceedence would be a permit violation.* If an exceedence occurs, the facility would have an opportunity to demonstrate that the throughput limit in fact did not reflect the appropriate limit for purposes of 2-1-234.3. If the facility can demonstrate this, no

enforcement action would follow, and the permit would be revised at the next opportunity. It also follows that compliance with these limits is not a "safe harbor" for the facility. If evidence clearly shows that a grandfathered source has undergone a "modification" as defined in 2-1-234.3, the District would consider that a preconstruction review-triggering event, notwithstanding compliance with the throughput limit in the Title V permit. There is no Title V "permit shield" associated with throughput limits for grandfathered sources, as they are being proposed.

Conditions that are obsolete or that have no regulatory basis have been deleted from the permit.

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- BACT: This term is used for a condition imposed by the APCO to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition imposed by the APCO that limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit pursuant to Regulation 2, Rule 2.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

Parameter monitoring has been added for each abatement device. Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

The reasons for the changes to each condition are discussed further below.

<u>Condition # 19906 for: S-1 Landfill with Gas Collection System</u>
<u>Note: Source S-1 will hereinafter be subject to Condition # 19906 only and Condition # 156 will be archived.</u>

Condition # 156 addressed the general landfill process as well as the gas collection system. The only requirement for the landfill itself was that the materials be covered with clean fill at the end of the processing day. The gas collection was limited to 60 vertical wells, required District notification in the event of breakdown, required a permit to increase the number of wells, and required low NOx burners at the ground level flare. These conditions will be augmented as appropriate to bring them up to date with current landfill requirements. Condition # 156 will be replaced by Condition # 19906 for Source S-1.

Part 1: <u>Waste Acceptance Limits</u>: Waste acceptance rate limits were added to define the capacity of the landfill, based on Application # 5630. The tons/day limit pertains to regulation of particulate emissions from waste transport and disposal. The total cumulative waste disposal limit and the design capacity limit pertain to regulation of VOC emissions from decomposing waste in the landfill. The tons per day limit and design capacity were provided in AFC's Initial

Design Capacity and Emission Rate Reports, as well as in the Collection and Control System Design Plan, and in Permit Application 5630. These limits are proposed as firm throughput limits and modification thresholds, so that any changes to these rates constitutes a modification of the landfill source as defined in Regulation 2-1-234.4 and is subject to the Authority to Construct requirements of Regulation 2-1-301. The total cumulative limit is based on the required landfill apex height upon closure after factoring the landfill compaction density and current cover practices. The correlation between the total cumulative limit and emissions is therefore changeable based on these variable. Accordingly, this limit is proposed as a reporting threshold and as a presumptive throughput limit and modification threshold. The permitted capacity of this landfill is 11,200,000 ton or 22,522,000 cubic yards of landfilled materials. The landfill gas generation rate (capacity) of the gas collection system is approximately 2,500 scf/day.

Allowable Fill Materials: The AFC site is only permitted by the Regional Water Quality Control Board and the Integrated Waste Management Board to accept clean fill materials, otherwise identified as Group 3 wastes. No contaminated soils are accepted for disposal. The materials processed include green wastes (stumps, tree trimmings, yard waste), clean construction debris, and clean fill material. Since there is no contaminated fill material accepted, Regulation 8, Rule 2 does not apply to this source and is not included in Table IV Source-Specific Applicable Requirements for this source. The disposal or handling of contaminated soils does not need to be addressed in the permit conditions.

Part 2: Dust Suppression: The active filling operations and associated vehicle traffic can generate significant particulate emissions. These emissions are subject to Regulation 6, Section 301 and 305 (Ringelmann 1.0 and no visible emissions) limitations. Presently this facility has no means of demonstrating compliance with these limits. Additional monitoring is required pursuant to Part 70 of the Clean Air Act. Typically, landfills (including AFC) maintain compliance with Regulations 6-301 and 6-305 by employing a dust mitigation program and using visual monitoring by site operators to ensure that dust mitigation measures are adequate. Dust mitigation measures include the application of water and/or dust suppressants on unpaved roads, fill areas, stockpiles, and other dust prone operations and sweeping, watering, or other cleaning measures on paved roads and parking areas. The frequency of watering and sweeping schedules varies from several water applications/day for dry days to no watering or sweeping on rainy days. The District is proposing to add the requirement to use these typical dust mitigation measures (Part 3) and to keep records of all water and dust suppressant applications and road cleaning activities, in order to demonstrate compliance with the 6-301 and 6-305 limits. District inspectors will occasionally observe the landfill operations on dry days to ensure that AFC's dust mitigation measures are adequate to prevent visible emissions or exceedence of the Ringelmann 1.0 limit.

Part 3: No Uncontrolled Venting of Landfill Gas: This part requires all collected landfill gas to be vented to the properly operating landfill gas flare A-2 or other District permitted device. This is to allow the continued compression and sale of landfill gas to the Central Contra Costa Sanitary District as supplemental fuel for their incinerators and boilers.

Part 4: Landfill Gas Collection System: Text was added to clearly identify the required landfill gas collection system components (60 vertical wells and 28 horizontal collectors). Regulation 8,

Rule 34 requires that the gas collection system be operated continuously. Continuous operation is defined as having all wells and collectors operating under vacuum and with landfill gas flow. Therefore, it is critical that the landfill gas collection system be clearly defined, so that both the operator and the District are aware of which wells and collectors are required to be under vacuum (and to meet the other requirements of 8-34-305). This part also requires Acme Fill to obtain an Authority to Construct prior to increasing the number of vertical wells or horizontal collectors.

Part 5: Landfill Gas System to Be Operated Continuously: This part supplements part 4 by requiring the continuous operation of the collection system. This part elaborates on the requirement to operate the gas collection system continuously (8-34-301.1) and is based on the definition of continuous operation (8-34-219). Further, this section requires AFC to notify the District Enforcement Division in the event of a breakdown of any component of the landfill gas collection system. The exemption Sections (113,116,117,118) describe situations in which a few wells may be shut down for short periods of time in order to perform necessary installations, repairs, maintenance, etc. on the system.

Part 6: Flare Heat Inputs: This part identifies the landfill gas throughput capacity of the A-2 landfill gas flare and requires monitoring of the landfill gas throughput. The flare was sized to handle 1750 scfm of landfill gas at a heating value of 455 Btu/scf. The maximum flare heat input is therefore 47.8 MM Btu/hr.

Part 7: Flare Minimum Temperature Requirement: The A-2 Landfill Gas Flare currently has no minimum temperature requirement. A combustion zone temperature limit is necessary to demonstrate on-going compliance with the 8-34-301.3 NMOC destruction efficiency requirement. The requirement to determine by source testing the appropriate minimum combustion zone temperature for this flare is also included in this condition with the District's default minimum temperature of 1400 °F as the initial requirement. This requirement is included to ensure that the destruction efficiencies required in Regulation 8-34-301.3 are met or exceeded.

Part 8: Sulfur Dioxide Limitations/Sulfur Concentration in Landfill Gas: All landfill gas combustion equipment is subject to the 9-2-302 limit of no more than 300 ppmv of SO_2 in the exhaust (dry basis). Under theoretical combustion conditions, 300 ppmv of SO_2 in the exhaust is equal to 1300 ppmv of H_2S in landfill gas. Since the sulfur content of landfill gas can vary considerably over time, the District has determined that quarterly monitoring of the sulfur content in the landfill gas is appropriate. The maximum total reduced sulfur concentration in the landfill gas is established at 1300 ppmv (dry) to ensure compliance with the 300 ppm SO2 limitation. Typical sulfide levels at AFC range from 20 to 30 ppm, therefore the 300 ppm SO_2 limit will not be exceeded.

Part 9: The annual source test required by 8-34-412 is described in more detail in this part.

Part 10: Regulation 8-34-412 requires an annual characterization of the landfill gas. This characterization includes an outline of the procedures for drawing the sample, reporting the results, and allowances for specific compound analysis.

Part 11: Additional record keeping requirements were added to ensure compliance with the gas collection system installation requirements of 8-34-304, the collection system continuous operation requirements of 8-34-301.1, the waste acceptance limits of Part 1, the dust mitigation requirements of Part 2, and several other new 8-34-501 record keeping requirements.

Following is a discussion of the previous parts of the existing Condition # 156, and how the old requirements are addressed by the new Condition # 19906.

Part 1: (Required covering of all disposal materials with clean fill upon completion of the day's work): This part is no longer applicable since only clean fill is allowed into the Acme Fill Corporation site.

Part 2: (Required written approval prior to increasing landfill gas well beyond 60): This is addressed in part 4 of the new condition.

Part 3. (Required notification of District Enforcement staff upon breakdown of any component of gas collection system): The Title V Standard Conditions (Item I), Part F (Monitoring Reports) states that all instances of non-compliance shall be reported to the District's Compliance and Enforcement Division within 10 calendar days of the discovery of the incident. Further a written report on the incident is required within 30-days of the discovery of the incident.

Part 4: (Required the landfill gas to be abated at all time by either the flare or other District-approved control device): This is still required and is addressed in part 3 of the new condition 19906. It should be noted that this limitation does not apply to unavoidable landfill gas emission episodes that occur during collection system installation, maintenance, or repairs subject to compliance with BAAQMD Reg 8-34, Sections 113, 116, 117, or 118 or to inadvertent leaks which do not exceed the limits of 8-34-301.2 or 8-34-303.

Part 5. (Required the flare to use low-NOx burners or equivalent technology approved by the District): The flare technology that was installed is a John Zink Model ZTOF-40-8, which represents low NOx technology. A source test will be performed to demonstrate that the flare meets low NOx requirements of less than 0.06 lb/MM Btu.

Prior Condition # 11118 for Source S-4 IC Engine
Prior Condition # 11114 for Sources S-5 (Tub Grinder), S-6, S-7, S-8
Note: Sources S-4 and S-5 will hereinafter be subject to Condition # 19911 only; Conditions # 11118 and # 11114 will both be archived.

Condition # 11118 addresses the diesel powered IC engine that drives the tub grinder, S-5. Operating requirements for S-5 were included in Condition # 11114 which also included specific requirements for the components of the composting operation, S-6 (ground waste composting and windrowing), S-7 (post-compost screening), and S-8 (finished compost storage). Sources 6, 7 and 8 have been shutdown and archived. As such, the requirements for S-5, which were included in Condition # 11114, will be rolled into the new Condition # 19911, and Condition # 11114 will be archived.

Following is a discussion of the parts of the new Condition # 19911:

Part 1: Hours of Operation: This limits the operating hours of sources S-4 and S-5 to 2920 hours during any consecutive 365 day period. The hours of operation came from part 5 of Condition # 11114 which was developed via permit Application # 11708.

Part 2: Records: This part was taken from part 6 of Condition # 11114, and requires the operator to record the hours of operation of these sources. The original condition was modified slightly to include both S-4 (engine) and S-5 (tub grinder). Consistent with Title V recordkeeping policies, the records must be kept and maintained for at least 5 years from the date the record is made.

Part 3: Sulfur Content in Diesel Fuel: Reg 9 Rule 1 Section 304 limits diesel fuel sulfur to 0.5% by weight. This is reiterated in part 3 of this condition, with compliance demonstrated by either producing a vendor certification of diesel sulfur content, or a certification that the diesel fuel meets the CARB 500 ppmw maximum or a District-approved source test result.

Part 4: Particulate Abatement, S-4: This is a new section in the conditions and requires continuous operator monitoring of the appearance of the exhaust. If persistent visible smoke is observed, the operator of the source must take all appropriate measures to remedy the episode.

Part 5: Particulate Abatement, S-5: This was taken from part 2 of Condition # 11118. The wording was altered to remove all references to S-6, S-7, and S-8, which are all archived sources.

Part 6: Visible Particulate Emissions: When source S-5 was permitted, a limit of 0.5 Ringelmann was established. This limit is inappropriate as the source was not subject to BACT (particulate emissions were about 5.5 lb/day) This requirement was taken from part 1 of Condition # 11114, and was changed to Ringelmann 1.0.

Part 7: Waste Handling Specification: This part was taken from part 4 of Condition # 11114, and was not changed. The purpose of the condition is to limit the odors emanating from decomposing wood or other green waste.

Part 8: Continuous Monitoring: This part was added to require enhanced monitoring for the tub grinder, S-5. This part also requires operator action in the event that visible emissions are detected.

Prior Condition # 7928 for Source S-200 Leachate Treatment
Note: Source S-200 will hereinafter be subject to Condition # 19908 only, and Condition # 7928 will be archived.

Condition # 7928 was developed from permit Application # 8603, and was based on 25-gpm flow rate (36,000 gal/day). The limits that were placed on the process are for emissions of VOCs and benzene. Based on measured influent concentrations and computer modeling, the applicant did not expect the VOC emissions to exceed the BACT trigger, or for the benzene emissions to exceed the toxic trigger level.

Initial source testing was required with a goal of estimating VOC and benzene emissions as well as average biodegradation efficiencies across the leachate treatment operation. The results of the source test demonstrated a benzene biodegradation efficiency of 75%. It should be noted that the initial source tests were performed within 60 days of startup of the leachate treatment facility, before the biomass inventory had reached steady state. The expected removal efficiency for benzene are expected to be approximately 99% based on a mature biomass inventory. Ongoing emissions of VOC and benzene are calculated by assuming a conservative biodegradation efficiency of 75% against the influent stream. The initial source testing showed the VOC emissions to be approximately 44% of the emissions limit, hence compliance (0.63 lb/day maximum) was easily demonstrated. The actual benzene emissions were approximately 0.4% of the limit (0.05 lb/day).

All references to the initial source test demonstration of biodegradation efficiency will be removed. The only limits will continue to be a 0.63 lb/day limit for VOC and 0.05 lb/day benzene limit, respectively. Due to the influent concentrations, ACME expects to easily meet the above limits. Ongoing compliance is demonstrated by applying the 75% abatement efficiency to the inlet VOC and benzene concentrations obtained from quarterly leachate sampling..

Condition # 7928, part 5, for S-200 specified a maximum total flow of 36,000 gal/day or as determined in the average of flow rates for the development of mass balances, whichever was less. The source tests produced a average leachate flow rate of 23 gpm (33,000 gal/day), which will become the permanent throughput condition for this source. All other conditions requiring monitoring of daily operation and monitoring will be kept.

Enforcement Notification, Exceedence of Standards: The part requiring ACME to notify District Enforcement Division within 7 days of an exceedence of the VOC or Benzene limits will be removed since it is redundant. Standard Title V permits require such notification within 10 days of any exceedence or non-compliance event. This requirement does not need to be restated in a permit condition.

Regulation 8-47, S-200: S-200 leachate treatment system is exempt from Regulation 8, Rule 47 according to section 8-47-111, Industrial Wastewater Treatment Facility. The purpose of S-200 is to treat the surface water that has percolated through the landfill, been collected in sumps, and pumped to leachate treatment for enhanced biodegradation processing prior to discharge into bay waters. Regulation 8, Rule 47 was developed to "control emissions of organic compounds from contaminated groundwater and soil. The provisions … [of 8-47] apply to new and modified air stripping and soil vapor extraction equipment used for the treatment of groundwater or soil contaminated with organic compounds."

Although there is no current definition of groundwater in the BAAQMD regulations, groundwater is commonly thought as being water which makes up the water table, or which resides as an underground reservoir, which may become contaminated as a result of leakage from an underground hydrocarbon storage tank or other chemical process. Hydrocarbons may be partially stripped from the groundwater by adsorption onto carbon or by incineration or some other high efficiency abatement method. The still-contaminated groundwater is typically then sent to another location for further processing prior to reuse.

The water that is being treated at ACME is water from the surface that has become contaminated as part of the landfill process and which is being processed for removal of contaminants prior to discharge into the Bay. As such it is part of the landfill process. The contamination of surface water is ongoing, is expected and is largely unavoidable due to the nature of the operation. Contaminant levels are very low, and emissions well below any trigger levels of concern. The process for treating the water amounts to a wastewater treatment plant (much like a POTW which is also exempt from Regulation 8-47 pursuant to 8-47-110); the goal being to produce a water stream suitable for discharge. The Leachate Treatment System S-200 is an industrial wastewater treatment operation and is therefore exempt from Regulation 8, Rule 47 pursuant to Regulation 8-47-111.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided when no monitoring is proposed due to the size of a source.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of all monitoring, there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate.

SO_2 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-2 Landfill Gas Flare	BAAQMD 9-1-302	300 ppm (dry)	Quarterly Sulfur Analysis of Landfill Gas and Annual Source Test
S-4 Diesel IC Engine	BAAQMD 9-1-304	0.5% sulfur by weight	Fuel certification

SO_2 Discussion:

BAAQMD 9-1-302 for A-2 Landfill Gas Flare:
This facility will be subject to a federally enforceable limit of 1300 ppmv of total reduced sulfur (TRS) compounds in the landfill gas. This limit will ensure compliance with the BAAQMD Regulation 9-1-302 emission limit of 300 ppmv of SO_2 in the flare exhaust, because the air required for combustion dilutes the concentration of sulfur compared to the concentration in the landfill gas. Staff has proposed permit conditions that require the landfill gas to be monitored for total reduced sulfur content (on a quarterly basis) to ensure compliance with the landfill gas concentration limit of 1300 ppmv of TRS. District source tests indicated that the actual concentration of TRS in typical Bay Area landfill gas is less than 400 ppmv of TRS. One test indicates a TRS concentration of 30 ppmv or less for this site. Facility wide sulfur dioxide emissions are not significant.

BAAQMD 9-1-302 for S-4 Diesel IC Engine:
Fuel certification is a standard monitoring method for liquid fuel sulfur content.

Sources of Organics

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-200 Leachate Treatment Facility	BAAQMD 8-2-301	15 pounds/day or 300 ppm, dry basis	Records

POC Discussion:
AFC was already using quarterly analyses of the VOC content in the leachate influent, daily records of influent flow rate, and monthly calculations of VOC emissions to demonstrate compliance with the maximum permitted VOC emission rate for S-200 that is listed in the permit conditions for this source. These records are also sufficient to demonstrate compliance with the Regulation 8-2-301 limit, which is less stringent than the maximum permitted emission rate in the permit conditions.

Particulate Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Landfill	BAAQMD 6-301	Ringelmann No. 1 for < 3 minutes/hr	Records of all site watering and road cleaning events
S-4 Diesel IC Engine	BAAQMD 6-303.1	Ringelmann No. 2 for < 3 minutes/hr	Visual Observation of Emissions
S-4 Diesel IC Engine	BAAQMD Condition # 19911, Part 4	Visible Smoke Appearance	Visual Observation of Emissions
S-5 Green Waste Tub Grinder	BAAQMD 6-301	Ringelmann No. 1 for < 3 minutes/hr	Visual Observation of Emissions
S-5 Green Waste Tub Grinder	BAAQMD Condition # 19911, Part 5	Ringelmann No 1.0	Visual Observation of Emissions

Particulate discussion:
BAAQMD Regulation 6-301 for S-1 Landfill: The active filling operations and associated vehicle traffic can generate significant particulate emissions. Presently this facility has no method for demonstrating compliance with the Regulation 6-301, which limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Additional monitoring is required pursuant to Part 70 of the Clean Air Act. Typically, landfills (including AFC) maintain compliance with Regulation 6-301 by employing a dust mitigation program and using visual monitoring by site operators to ensure that dust mitigation measures are adequate. Dust mitigation measures include the application of water and/or dust suppressants on unpaved roads, fill areas, stockpiles, and other dust prone operations and sweeping, watering, or other cleaning measures on paved roads and parking areas. The frequency of watering and sweeping schedules varies from several water applications/day for dry days to no watering or sweeping on rainy days. AFC's watering

requirements are specified in Condition # 19906, Part 2. The District is proposing to add record keeping requirements of all water and/or dust suppressant applications and road cleaning activities (Condition # 19906, Part 11.d.), in order to demonstrate compliance with the Regulation 6-301. District inspectors will occasionally observe the landfill operations on dry days to ensure that AFC's dust mitigation measures are adequate to maintain compliance with the Ringelmann 1.0 limit.

BAAQMD Regulation 6-301 and BAAMD Condition # 19911, Parts 4-5 for S-4 Diesel IC Engine and S-5 Tub Grinder: Visual observation of the sources and the emissions, which is a standard method of demonstrating compliance with the applicable visible emission limitations, was added to Condition # 19911, Parts 3 and 7 to ensure compliance with the visible emission limitations cited in the table.

Other Limits

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1, Landfill	BAAQMD Condition # 19906, Part 1	$\leq$ 1500 tons/day and $\leq$ 11,200,000 tons (cumulative amount of all wastes) and $\leq$ 22,522,000 yd^3 (cumulative amount of all wastes and cover materials)	Records
A-2, Flare	BAAQMD Condition # 19906, Part 9	$\leq$ 1,375 MM BTU per day and $\leq$ 412,560 MM BTU per year	Gas Flow Meter and Records
S-200 Leachate Flow Rate	BAAQMD Condition # 19908, Part 5	33,000 Gallons/Day	Records

Other Limits Discussion:
BAAQMD Condition # 19906, Part 1 for S-1 Landfill: The use of records is a standard method for monitoring for waste acceptance rate limits.

BAAQMD Condition # 19906, Part 9 for A-2 Landfill Gas Flare: The use of a gas flow meter and records is a standard method for monitoring for heat input limits to engines and flares.

BAAQMD Condition # 19908, Part 5 for S-200 Leachate Treatment Facility: The use of records is a standard method for monitoring for wastewater throughput rates.

Federally Enforceable Emission Limits Without Monitoring:
The District staff has determined that periodic or continuous monitoring is either not necessary or not appropriate for these emission limits. The specific reasons for these determinations are discussed following the table.

Affected Sources	Emission Limit Citation	Federally Enforceable Emission Limit	Maximum Potential Emissions	Monitoring Recommen-dation
Landfill Gas Flare (A-2)	BAAQMD 6-301	Ringelmann No. 1 for < 3 minutes/hr	3.5 Tons/Year of PM_{10}	None
Landfill Gas Flare (A-2)	BAAQMD 9-1-302	Property Line Ground level limits (SO_2) $\leq$ 0.5 ppm for 3 minutes $\leq$ 0.25 ppm for 60 minutes, and $\leq$ 0.05 ppm for 24 hrs	30.35 Tons/Year of SO_2	None
Landfill (S-1) and Landfill Gas Flare (A-2)	BAAQMD 9-2-301	Property Line ground level limits (H2S) $\leq$ 0.06 ppm Averaged over 3 minutes and $\leq$ 0.03 ppm Averaged over 60 minutes	2.59 Tons/Year of H_2S	None
S-4 Diesel IC Engine	BAAQMD 6-310	0.15 grains/dscf	0.18 Tons/Year of PM_{10}	None
S-5 Green Waste Tub Grinder	BAAQMD 6-311	$E = 0.026(P)^{0.67}$ where: E = Allowable Emission Rate (lb/hr); and P = Process Weight Rate (lb/hr) Maximum Allowable Emission Rate = 40 lb/hr For P >57,320 lb/hr	1.05 Tons/Year of PM_{10}	None

BAAQMD 6-301 for A-2 Landfill Gas Flare: BAAQMD Regulation 6-301 for A-2 Landfill Gas Flare: Visible particulate emissions are normally not associated with combustion of gaseous fuels, such as natural gas or landfill gas. Natural gas is used as the flare pilot. Landfill gas is burned in the flare only when the other combustion sources (Central Contra Costa Sanitary District incinerators or boilers) or the landfill gas turbine generators at Bulldog Gas & Power are unable to use the landfill gas. The AP-42 emission factor is 0.0168 pounds/MM BTU for an enclosed ground flare burning landfill gas. Maximum potential emissions from A-2, assuming all landfill gas is flared, is approximately 3.5 tons/year of PM_{10}. Since this is a highly unrealistic scenario and violations of Ringelmann 1.0 limit are not expected, periodic monitoring for the Ringelmann limit is not appropriate for this flare.

BAAQMD 9-1-301 for A-2 Landfill Gas Flare:
This facility will be subject to a federally enforceable limit of 1300 ppmv of total reduced sulfur (TRS) compounds in the landfill gas. This limit will ensure compliance with the BAAQMD Regulation 9-1-302 emission limit of 300 ppmv of SO_2 in the engine exhaust. Staff has proposed

permit conditions that require the landfill gas to be monitored for total reduced sulfur content (on a quarterly basis) to ensure compliance with the landfill gas concentration limit of 1300 ppmv of TRS. District source tests indicated that the actual concentration of TRS in typical Bay Area landfill gas is less than 400 ppmv of TRS. One test indicates a TRS concentration of less than 30 ppmv for this site. Actual facility wide sulfur dioxide emissions are expected to be less than 3 tons/year (far less than the allowable emission rate). Sources complying with the 9-1-302 limit are not expected to exceed the ground level concentration limits listed in BAAQMD Regulation 9-1-301. Monitoring for ground level SO_2 concentrations in addition to the proposed landfill gas monitoring would not be appropriate.

BAAQMD 9-2-301 for S-1 Landfill and A-2 Landfill Gas Flare:
Hydrogen sulfide can be detected by its odor at concentrations as low as 0.0005 ppmv and is generally identified by its characteristic rotten egg smell a concentration of 0.005 ppmv or less. Therefore, hydrogen sulfide emissions are typically discovered by smell well before the concentration approaches the lowest 9-2-301 emission limit of 0.03 ppmv. The District rarely ever receives complaints about hydrogen sulfide odors from Bay Area landfills and has never received any complaints about hydrogen sulfide odors from this facility. Since hydrogen sulfide odors have not been detected at this facility, the concentration of hydrogen sulfide at the property line is expected to be well below the Regulation 9-1-301 limits. Although the maximum potential hydrogen sulfide emissions uncontrolled are 2.59 tons/year, the actual hydrogen sulfide emissions are expected to less than 0.2 tons/year of H_2S, based on a more typical TRS concentration of 30 ppmv in landfill gas. Monitoring for ground level H_2S concentrations would not be appropriate for such low emission rates unless an on-going hydrogen sulfide odor problem has been documented.

S-4 Diesel IC Engine Particulate Emissions: The engine is subject to the grain loading standard of 0.15 grains/dscf pursuant to Regulation 6-310. There are no monitoring requirements to demonstrate compliance with this standard. Based on the District's experience with permitting diesel engines of this size, the District does not expect any excesses of this grain loading standard. The District expects that the Ringelmann standard would be exceeded before the grain loading standard is exceeded. Therefore, monitoring is not appropriate in this case.

Tub Grinder S-5 Process Weight Emissions: The tub grinder is capable of processing 30 tons/hour (60,000 pounds/hour) of wood waste. Under Regulation 6-311, the allowable particulate emission rate is the maximum rate of 40 pounds/hour. Per AP-42, this process is similar to log debarking producing particulate emissions of approximately 0.024 pounds/ton processed (Table 10.3-3, Wood Products Industry, AP-42, 4th edition). The calculated emissions would then be 0.72 pound/hour. The emission limit is more than 55 times this expected emission rate. In addition, the AP-42 emission factor is for uncontrolled emissions. The particulate emissions from the tub grinder are controlled by water sprays. Since the margin of compliance is so large, monitoring for the Regulation 6-311 limit is not appropriate.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit that identifies and justifies specific federally enforceable regulations and standards are not applicable to a source or group of sources, or (2) A provision in a major facility review permit that identifies and justifies specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting which are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

No permit shields were requested by the applicant.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

A July 31, 2002 memorandum from the Director of Compliance and Enforcement to the Director of Permit Services presents a review of the compliance record of the facility (Site #1464). The Compliance and Enforcement Division staff has reviewed the records for the period from June 1, 2001 through June 30, 2002. During the period subject to review, activities known to the District include:

- There was a violation notice issued on 8/21/01 (VN A04400), for exceeding the 1000 ppm surface leak limit at leachate well AW1 (Regulation 8-34-303).
- The District did not receive any alleged complaints.
- The facility is not operating under a Variance or an Order of Abatement from the District Board.
- The VN issued on August 21, 2001 represents the only emissions excess reported or documented by District staff recently.

The owner certified that all equipment was operating in compliance on April 6, 2001. No non-compliance issues have been identified to date.

ACME Fill Corporation stated that they are in full compliance with all applicable local, state, and federal air quality requirements by signing compliance certification statements on April 6, 2001.

F. Differences between the Application and the Proposed Permit:

Existing operating conditions have been modified to include throughput limits if none existed previously. Additionally certain non-relevant permit conditions were removed for clarification. The conditions for the diesel IC engine and the green waste tub grinder were merged into a single condition, since the 2 sources operate together.

Application number 5630 was submitted by ACME fill corporation to increase the final fill height to 75 feet instead of the 60 feet as originally permitted. This brings the final fill in place capacity to 11,200,000 tons. This increase in capacity is required by the Regional Water Quality Control Board to achieve the proper landfill slope thereby decreasing future production of leachate and other contaminated water. There is no emissions increase resulting from this application, and all final fill capacities, final heights, etc. have been built into this Title V permit.

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APPENDIX A

BAAQMD COMPLIANCE REPORT

APPENDIX B

POTENTIAL TO EMIT CALCULATIONS

The calculations of maximum potential emissions and conversions to various applicable limits are described in more detail below.

Total Reduced Sulfur Content in Landfill Gas at Landfill (S-1):

Basis:

Maximum Methane Generation Rate (Application # 5630):	7.107E6 m^3/year (478 cfm)
Landfill Gas Methane Content:	45.3%
LFG Heat Content:	450 BTU/scf
Collection System Capture Efficiency:	75%
Control Systems Destruction Efficiency:	98%
Maximum Permitted Landfill Gas TRS Content:	1300 ppmv

Although the maximum permitted TRS Content is 1300 ppmv of H_2S in landfill gas (based on the Regulation 9-1-302 limit), District source test data indicates that all Bay Area landfills will contain no more than 400 ppmv of H_2S in the landfill gas. The maximum Bay Area H_2S Content (400 ppmv) is used for all potential to emit calculations, because the maximum permitted emission rate is not realistically ever expected to happen. Limited source test data for this site indicated an H_2S content of less than 30 ppmv for AFC landfill gas.

Actual TRS Content in Bay Area Landfill Gas (used for potential to emit calculations):	400 ppmv
Actual TRS Content in AFC Landfill Gas:	<30 ppmv

Sulfur Dioxide Emissions from Landfill Gas Flare (A-2):

Maximum potential sulfur dioxide emissions were based on the maximum permitted heat input rates identified in the permit condition (1375 MM BTU/day and 412,560 MM BTU/year) and the maximum potential sulfur content in Bay Area landfill gas (400 ppmv as H_2S).

(412,560 MM BTU/year)*(10^6 BTU/MM BTU)/(450 BTU/scf LFG) = 916,800,000 scf/year
(916,800,000 scf/year)*(400 scf H_2S/10^6 scf) = 366,720 scf/year of H_2S
(366,720 ft^3 H_2S/yr)/(387 ft^3 H_2S/lbmol H_2S)*(1 lbmol SO_2/1 lbmol H_2S)*(64.06 pounds SO_2 /lbmol SO_2)/(2000 pounds/ton)
= 30.35 tons/year of SO_2 from A-2

Actual sulfur dioxide emissions were based on the maximum permitted heat input rates identified in the permit condition (1375 MM BTU/day and 412,560 MM BTU/year) and the actual measured sulfur content in AFC landfill gas (30 ppmv as H_2S).

(412,560 MM BTU/year)*(10^6 BTU/MM BTU)/(450 BTU/scf LFG) = 916,800,000 scf/year
(916,800,000 scf/year)*(30 scf H_2S/10^6 scf) = 27,504 scf/year of H_2S
(27,504 ft^3 H_2S/yr)/(387 ft^3 H_2S/lbmol H_2S)*(1 lbmol SO_2/1 lbmol H_2S)*(64.06 pounds SO_2 /lbmol SO_2)/(2000 pounds/ton)
= 2.28 tons/year of SO_2 from A-2

Hydrogen Sulfide Emissions from Landfill (S-1) and Landfill Gas Flare (A-2):
From Application # 5630, the maximum methane generation rate for 2002 and beyond is expected to be 478 cfm. For landfill gas at 450 BTU/scf, the methane content is 45.3%. The landfill gas generation rate is:
(478 cfm)/(0.453 cfm methane/cfm landfill gas) = 1055 cfm of landfill gas

The amounts of fugitive and collected landfill gas are estimated to be:
(1055 cfm)*(0.25) = 264 cfm of fugitive landfill gas
(1055 cfm)*(0.75) = 791 cfm of collected landfill gas

The hydrogen sulfide emission rate from fugitive landfill gas at AFC is:
(264 ft^3/min)*(60 min/hour)*(24 hours/day)*(365 days/year)/(387 ft^3/lbmol)*
(H2S lbmol/10^6 lbmol)*(34.08 pounds/lbmol)/(2000 pounds/ton)
= (6.11E-3)*(H2S) tons/year, where H_2S is the concentration of H_2S in the landfill gas (ppmv)
Maximum Permitted Emissions: 7.943 tons/year of H_2S
Maximum Potential Emissions: 2.444 tons/year of H_2S
Actual Estimated Emissions: 0.183 tons/year of H_2S

The hydrogen sulfide emission rate from collected landfill gas at AFC is:
(791 ft^3/min)*(60 min/hour)*(24 hours/day)*(365 days/year)/(387 ft^3/lbmol)*
(H2S lbmol/10^6 lbmol)*(34.08 pounds/lbmol)/(2000 pounds/ton)*(1.00-0.98)
= (3.66E-4)*(H2S) tons/year, where H_2S is the concentration of H_2S in the landfill gas (ppmv)
Maximum Permitted Emissions: 0.476 tons/year of H_2S
Maximum Potential Emissions: 0.146 tons/year of H_2S
Actual Estimated Emissions: 0.011 tons/year of H_2S

Total hydrogen sulfide emissions are:

	fugitive		abated		total emissions
Maximum Permitted Emissions:	7.943	+	0.476	=	8.419 tons/year of H_2S
Maximum Potential Emissions:	2.444	+	0.146	=	2.590 tons/year of H_2S
Actual Estimated Emissions:	0.183	+	0.011	=	0.194 tons/year of H_2S

Particulate Emissions from Diesel IC Engine (S-4):
The S-4 IC Engine uses a maximum of 4.6 gallons/hour of diesel oil and is limited by permit conditions to operating for no more than 2920 hours/year. Diesel oil has an average HHV of 137,000 BTU/gallon.

(4.6 gallons/hour)*(2920 hours/year)*(137,000 BTU/gallon)*(9190 dscf/10^6 BTU)*
(0.15 grains PM_{10}/dscf)/(7000 grains/pound)/(2000 pounds/ton)
= 0.18 tons/year of PM_{10}

Particulate Emissions from Tub Grinder (S-5):
(30 tons/hour)*(2920 hours/year)*(0.024 pounds PM_{10}/ton)/(2000 pounds/ton)
= 1.05 tons/year of PM_{10}

APPENDIX C

GLOSSARY

ACT
Federal Clean Air Act

AP-42
EPA's Compilation of Air Pollutant Emission Factors, Fifth Edition. Available at: http://www.epa.gov/ttn/chief/ap42/index.html

APCO
Air Pollution Control Officer: Head of Bay Area Air Quality Management District

ARB
Air Resources Board

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

Basis
The underlying authority which allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CEQA
California Environmental Quality Act

CFR
The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CH4 or CH_4
Methane

CO
Carbon Monoxide

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

EL
Emission limit

EPA
The federal Environmental Protection Agency.

Excluded
Not subject to any District regulations.

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FID
Flame Ionization Detector

FP
Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

HAP
Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

H2S or H_2S
Hydrogen sulfide

LFG
Landfill gas

Major Facility
A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR
Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MOP
The District's Manual of Procedures.

MSW
Municipal solid waste

MW

Molecular weight

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC
Non-methane Organic Compounds (Same as NMHC)

NOx or NO_x
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O2 or O_2
Oxygen

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10 or PM_{10}
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

RCRA
Resource Conservation and Recovery Act

SIP
State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2 or SO_2
Sulfur dioxide

SOCMI
Synthetic Organic Compound Manufacturing Industry

THC
Total Hydrocarbons (NMHC + Methane)

Title V
Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC
Total Organic Compounds (NMOC + Methane, same as THC)

TPH
Total Petroleum Hydrocarbons

TRMP
Toxic Risk Management Plan

TRS
Total Reduced Sulfur

TSP
Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
BTU	=	British Thermal Unit
°C	=	degrees Centigrade
cfm	=	cubic feet per minute
dscf	=	dry standard cubic feet
°F	=	degrees Fahrenheit
ft^3	=	cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
gr	=	grains
hp	=	horsepower
hr	=	hour
lb	=	pound
lbmol	=	pound-mole
in	=	inches
max	=	maximum
m^2	=	square meter
m^3	=	cubic meters
min	=	minute
mm	=	million
MM	=	million
MM BTU	=	million BTU
MMcf	=	million cubic feet
Mg	=	mega grams
ppm	=	parts per million
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scf	=	standard cubic feet
scfm	=	standard cubic feet per minute
yd	=	yard
yd^3	=	cubic yards
yr	=	year